

REMARKS

This Amendment is in response to the Official Action dated April 9, 2007 (the Action).

Applicants appreciate the Examiner's indication that Claims 5, 12, and 24 would be allowable if rewritten in independent form and that Claims 37-40 are allowed. In response, Claims 5, 12 and 24 have been rewritten in independent form.

Claim 41 is new. Support for Claim 41 can be found, for example, in the specification in paragraph 12.

Independent Claims 1 and 17 have been amended to incorporate the recitations of dependent Claims 2 and 18, respectively. Claims 2 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,249,741 to Mills (Mills) in view of U.S. Patent No. 2,340,354 to Wells (Wells). Applicant hereby requests further consideration of the application in view of the amendments above and the comments that follow.

Claims 1 and 17

Claim 1 recites a continuous oven for dynamically heating a food product having an outer surface and an interior, including:

- an enclosure with a first heating zone and a second heating zone;
- a conveyor configured to convey the product from the first heating zone to the second heating zone;

- at least one surface-browning infrared emitter adjacent the first heating zone of the conveyor and configured to provide a first electromagnetic radiation profile to the product in the first heating zone that is adapted to evaporate surface moisture to produce a crust matrix on the outer surface of the product; and

- at least one interior-heating infrared emitter adjacent the second heating zone of the conveyor and configured to provide a second electromagnetic radiation profile to the product in the second heating zone that is different from the first electromagnetic radiation profile, wherein the second electromagnetic radiation profile is adapted to heat the interior of the product, the first electromagnetic radiation profile provides a greater heat flux to the product than the second electromagnetic radiation profile, and the first and second electromagnetic radiation profiles together approximate a heat flux characteristic of an immersion frying process.

Claim 17 recites a method of dynamically heating a food product in an oven. The product includes an exterior surface and an interior, and the method includes:

exposing the product to radiation having a first electromagnetic radiation profile adapted to produce a crust matrix on the surface of the product; and then
exposing the product to radiation having a second electromagnetic radiation profile that is different from the first electromagnetic radiation profile and adapted to heat the interior of the product, wherein the first electromagnetic radiation profile has an intensity that is greater than the second electromagnetic radiation profile

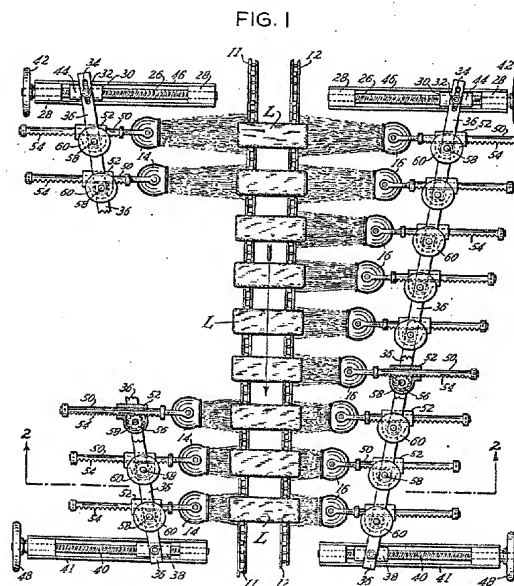
Applicants submit that Mills and Wells do not teach or render obvious at least a first electromagnetic radiation profile that provides a greater heat flux to the product than the second electromagnetic heat profile and that the first and second electromagnetic radiation profiles together approximate an immersion frying process as recited in Claim 1 or that the first electromagnetic radiation profile has an intensity that is greater than the second electromagnetic radiation profile as recited in Claim 17. In addition, Mills and Wells also appear to bake the interior of the product before forming the crust in contrast to the recitations of Claims 1 and 17, which recite that the first electromagnetic radiation profile is adapted to produce a crust matrix on the surface of the product and the second electromagnetic radiation profile is adapted to heat the interior of the product.

In particular, Mills proposes techniques for roasting and baking food products to accomplish a complete center bake within the food product with a desirable amount and depth of surface browning. *See* Mills, col. 1, lines 8-14. Wells is also directed to baking, including baking bread and “other bakery produces, such as rolls, biscuits, etc.” *See* Wells, col. 1, lines 1-3. Notably, neither Mills nor Wells include any discussion of immersion frying. The heat fluxes achieved in the baking ovens of Mills and Wells are different from the claimed electromagnetic radiation profiles, and Mills and Wells teach away from the recitations of Claims 1 and 17.

Mills states that attempts to speed up the baking process in an infrared oven are limited by the amount of heating that the surface of the product can tolerate without undesirable results, such as progressive charring, etc. *See* Mills, col. 1, lines 25-38. Wells

discusses that “[i]n the baking of bread it is desirable to bake the interior of the loaf before the crust is fully formed, as otherwise the formation of the crust may prevent the proper baking of the interior.” See Wells, page 2, column 2, lines 38-41. In contrast, Claims 1 and 17 recite that the first electromagnetic radiation profile is adapted to produce a crust matrix on the surface of the product and the second electromagnetic radiation profile is adapted to heat the interior of the product.

In addition, as can be seen in Figure 1 of Wells, the lamps 14, 16 are farther away from the loaves L at the beginning of the conveyor chains 11, 12 and become closer to the loaves L as the loaves L progress along the conveyor. In contrast, Claims 1 and 17 recite that the first electromagnetic radiation heat profile is greater than the second electromagnetic radiation heat profile, and therefore, Wells teaches away from this recitation of the claims.



The Action takes the position that “the steps of surface browning and the interior cooking would appear to inherently approximate a frying process.” However, the Action does not satisfy the requirements of establishing inherency as set forth in the M.P.E.P. The M.P.E.P. § 2112 states:

To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill... *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)

(emphasis added)
and

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

As noted above, Mills and Wells are both directed to baking or roasting, and as such, the techniques described in Mills and Wells cannot necessarily result in a product that approximates an immersion frying process as maintained in the Action. Moreover, as discussed above, the heat fluxes used in the baking ovens of Mills and Wells are, in fact, different from the electromagnetic radiation profiles recited in Claims 1 and 17.

The Action also states that various modifications are “all strictly in accord with the known cooking requirements of particular foods.” However, Mills and Wells are directed to baked goods, such as bread, and there is no teaching in the references regarding the allegedly “known cooking requirements” of immersion frying. Applicants submit that, even if the heat profile requirements of fried foods were known, it is not obvious why ovens used to bake traditional baked goods could be modified to approximate the cooking requirements (*e.g.*, a heat flux profile) in a product that is typically achieved by immersing the product in frying oil.

For at least these reasons, Applicants submit that Claims 1 and 17 are patentable over Mills and Wells. Claims 3-16 and 19-36 depend from Claims 1 and 17, respectively, and are likewise patentable at least per the patentability of the claims from which they depend.

Applicants note that Claims 22 and 31-36 were rejected in the Action under 35 U.S.C. 103(a) as being unpatentable over Mills and/or Wells in view of various secondary references. Applicants submit that the deficiencies of Mills and Wells are not remedied by the following secondary references cited in the Action on pages 2-3:

U.S. Patent No. 6,417,494 to Westerberg is directed to a lightwave oven and is cited against dependent Claim 22 as allegedly disclosing that interior heating is obtained with wavelengths in the range of 0.4 to 1.4 microns (*see* Abstract).

U.S. Patent No. 5,431,944 to Melvej is directed to a batter mix for coating a frozen food product and is cited against dependent Claims 31, 33 and 34 (*see* Abstract).

U.S. Patent No. 4,756,916 to Dreher is directed to a process for producing low oil potato chips using a laboratory scale fluidized bed oven using superheated steam or airflow (*see* col. 5, lines 33-62) and is cited against dependent Claim 32.

U.S. Patent No. 4,421,015 to Masters is directed to a radiant heat cooking apparatus that discusses that food articles can be thawed, heated or fully cooked direct from frozen conditions (*See* Abstract) and is cited against dependent Claims 35 and 36.

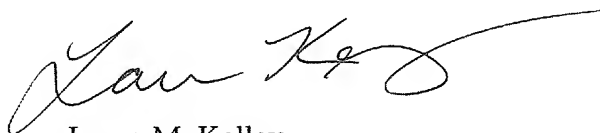
Accordingly, the deficiencies of Mills and Wells are not cured by the secondary references.

For at least the above reasons, Applicants request that the rejections under 35 U.S.C. §§ 102/103 of Claims 1 and 17 and Claims 3-16 and 19-36 depending therefrom be withdrawn.

CONCLUSION

Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any small matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,



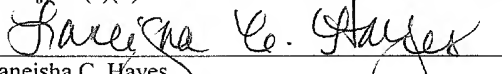
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Page 15

CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on August 8, 2007.


Laneisha C. Hayes
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